REMARKS

I. INTRODUCTION

Claims 1 and 6 have been amended. Thus, claims 1-21 remain pending in the present application. No new matter has been added. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

II. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-3, 6, 10-12, 14, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,851,050 to Singhal et al. ("Singhal '050") in view of U.S. Patent No. 6,760,555 to Leung ("Leung"). (See 6/14/06 Office Action, pp. 4-9). Singhal '050 describes a process wherein a roaming device **1400** (termed a "client" by Singhal '050 and a "mobile node" by Leung) attempts to make contact with a first access point **1420** (termed an "access point" by Singhal '050 and a "Home Agent" by Leung). (See Singhal '050, col. 18, ll. 37-40). When the client first communicates with the access point, assuming no session key already exists between the client and the access point, the access point communicates with an authentication server **1450** to obtain security information for the client. (See Singhal '050, col. 18, ll. 39-47). Once the client has been authenticated, the authentication data is sent to a routing coordinator **1460**, which stores the data in a lookup table. (See Singhal '050, col. 18, ll. 61-64). As the client roams to further access points (termed "foreign agents" by Leung), those further access points then consult the lookup table stored at the routing coordinator to authenticate the client. (See Singhal '050, col. 18, ll. 65-67).

In contrast, claim 1 recites "generating, by an authentication server of the network, authentication data associated with the roaming device," "sending, by the authentication server, the authentication data to access points of the network, the access points being connected to the authentication server" and "when the roaming device roams to any access point of the access points, using the authentication data to locally authenticate the roaming device at any access

point." Thus, claim 1 is a method of authentication wherein the authentication server sends authentication data to multiple access points, in order that further authentication can be accomplished locally at any individual access point, *without* further communication with the authentication server.

The Examiner has recognized that Singhal '050 does not disclose authenticating the roaming device locally at the particular access point as recited by claim 1. (See 6/14/06 Office Action, p. 4). However, the Examiner attempts to cure this deficiency by using the teaching of Leung that the Home Agent retrieves the security association from an authentication server and uses it to authenticate the mobile device. (See Id.). The applicants respectfully disagree with the Examiner's contention. According to the disclosure of Leung, when the roaming mobile node makes contact with a foreign agent, that new foreign agent must communicate with some other resource, *i.e.*, the Home Agent, in order to authenticate the roaming mobile node.

The Examiner further contends that the recitation of claim 1 only specifies sending the authentication data to a plurality of access points, whereupon the authentication sent to the plurality of access points is used at a particular access point for local authentication when the roaming device roams to this particular access point. Furthermore, this limitation only requires local authentication at a single access point and does not require local authentication at each and every access point to which the authentication is sent. (See Id., p. 3). Applicants respectfully disagree. As amended, claim 1 recites "when the roaming device roams to any access point," the authentication data is used. Those skilled in the art will understand that "any access point" encompasses both a first access point (*i.e.*, Home Agent) and other access points (*i.e.*, foreign agents). Once the roaming device enters the first access point or other access points, the authentication data is used to locally authenticate the roaming device at any of the access points, where the authentication data is sent by the authentication server. Those skilled in the art will also understand that the recited claim does not require local authentication at each and every access point to which the authentication data is sent, as contended by the Examiner. (See Id.). Rather, local authentication via the authentication data is performed at any access point that the roaming device may enter. In addition, to consider that each authentication procedure may potentially be from an authentication server to an access point would render the teachings of

Leung ineffective. That is, Leung discloses a means to relieve server load through the use of the Home Agent when a roaming device accesses foreign agents. Thus, Leung and the present application concerns interactions for authentication procedures among an authentication server, a first access point (*i.e.*, Home Agent), and other access points (*i.e.*, foreign agents).

Claim 1 specifically recites that the authentication server sends "the authentication data to *access points* of the network" and that this authentication data is used "to *locally authenticate the roaming device at any access point*." Thus, claim 1 recites that the authentication data is sent to multiple access points in the network (not just one Home Agent as disclosed by Leung). In addition, claim 1 recites that the roaming device is authenticated by the access point to which it is attempting to roam. While, Leung teaches that the Home Agent is not the authentication server, the Home Agent is still "remote" from the foreign agents, *e.g.*, the other access points. Thus, Leung is not teaching local authentication at the individual access points.

Accordingly, neither Singhal '050 nor Leung, alone or in combination, disclose or suggest "sending, by the authentication server, the authentication data to access points of the network, the access points being connected to the authentication server" and "when the roaming device roams to any access point of the access points, using the authentication data to locally authenticate the roaming device at any access point," as recited in claim 1. Therefore, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection over Singhal '050 in view of Leung be withdrawn. Because claims 2-3 and 6 depend from, and therefore include all of the limitations of, claim 1, it is respectfully submitted that these claims are also allowable.

Claim 10 recites "distributing, by the authentication server, the authentication data to the first access point and a second access point of the network" and "locally authenticating the roaming device upon a contact with the second access point using the distributed authentication data." Thus, for at least the reasons discussed with reference to claim 1, claim 10 is also allowable. Because claim 14 depends from and, therefore, includes all of the limitations of claim 10, it is respectfully submitted that this claim is also allowable.

Claim 16 recites a system including an authentication server and two access points "wherein the authentication server sends the authentication data to the first and second access points upon an initial authentication procedure of the roaming device with the first access point and wherein the second access point locally authenticates the roaming device upon a contact of the roaming device with the second access point." Thus, for at least the reasons discussed with reference to claim 1, claim 16 is also allowable. Because claims 17 and 18 depend from and, therefore, include all of the limitations of claim 16, it is respectfully submitted that these claims are also allowable.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 in view of Leung as applied to claim 1, and in further view of U.S. Patent No. 5,408,683 to Ablay et al. ("Ablay"). (See 6/14/06 Office Action, pp. 9-11).

Ablay does not cure the above-described deficiencies of Singhal '050 and Leung. Thus, Singhal '050, Leung and Ablay, either alone or in combination, neither disclose nor suggest the method of claim 1. Because claims 4 and 5 depend from and, therefore, include all of the limitations of claim 1, it is respectfully submitted that these claims are allowable for at least the reasons stated above for claim 1.

Claims 7, 8, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 in view of Leung as applied to claim 1, and in further view of U.S. Patent No. 6,452,910 to Vij et al. ("Vij"). (See 6/14/06 Office Action, pp. 11-13).

Vij does not cure the above-described deficiencies of Singhal '050 and Leung. Thus, Singhal '050, Leung and Vij, either alone or in combination, neither disclose nor suggest the method of claim 1. Because claims 7 and 8 depend from and, therefore, include all of the limitations of claim 1, it is respectfully submitted that these claims are allowable for at least the reasons stated above for claim 1. Similarly, Singhal '050, Leung and Vij, either alone or in combination, neither disclose nor suggest the method of claim 10. Because claim 13 depends from and, therefore, includes all of the limitations of claim 10, it is respectfully submitted that this claim is allowable for at least the reasons stated above for claim 10

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 (with the rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 in view of Leung incorporated by reference). (See 6/14/06 Office Action, pp. 13-14).

As previously discussed for claim 1, Singhal '050 and Leung, either alone or in combination, neither disclose nor suggest the method of claim 1. Because claim 9 depends from and, therefore, includes all of the limitations of claim 1, it is respectfully submitted that this claim is allowable for at least the reasons stated above for claim 1.

Claims 15, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 in view of Leung as applied to claim 10, and in further view of U.S. Patent Application No. 2002/174335 by Zhang et al. ("Zhang"), with RFC 2138 incorporated to illustrate inherent properties of the RADIUS protocol. (See 6/14/06 Office Action, pp. 14-16).

Zhang does not cure the above-mentioned deficiencies of Singhal '050 and Leung. Therefore, Singhal '050, Leung and Zhang, either alone or in combination, neither disclose nor suggest the method of claim 10. Because claim 15 depends from and, therefore, includes all of the limitations of claim 10, it is respectfully submitted that this claim is allowable for at least the reasons stated above for claim 10.

Claim 19 recites "with an authentication server, receiving an authentication request from a roaming device, the request being encrypted with a first shared code; with the authentication server, generating a session key associated with the roaming device; sending the session key to an access point of the network, the session key being encrypted with a second shared code; and utilizing the session key to authenticate the roaming device at the access point, and to encrypt data exchanged between the roaming device and the access point." As was the case for claim 1, the method of claim 19 performs authentication "*at the access point*." Zhang does not cure the above-described deficiencies of Singhal '050 and Leung in that it also fails to disclose authentication performed "*at the access point*." Thus, Singhal '050, Leung and Zhang, alone or in combination, neither disclose nor suggest the method of claim 19. Because claim 20 depends

from and, therefore, includes all of the limitations of claim 19, it is respectfully submitted that this claim is also allowable for at least the reasons stated for claim 19.

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Singhal '050 in view of Leung and Zhang as applied to claim 19, and in further view of U.S. Patent No. 6,178,506 to Quick, Jr. ("Quick"). (See 6/14/06 Office Action, pp. 16-17).

Quick does not cure the above-described deficiencies of Singhal '050, Leung and Zhang. Thus, Singhal '050, Leung, Zhang and Quick, alone or in combination, neither disclose nor suggest the method of claim 19. Because claim 21 depends from and, therefore, includes all of the limitations of claim 19, it is respectfully submitted that this claim is also allowable for at least the reasons stated above for claim 19.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the now pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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